

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

## PCT

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/EP2005/000489

International filing date (day/month/year)  
19.01.2005

Priority date (day/month/year)  
21.01.2004

International Patent Classification (IPC) or both national classification and IPC  
G03F7/027, B41C1/10

Applicant  
KODAK POLYCHROME GRAPHICS GMBH

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/EP2005/000489

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/EP2005/000489

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-25
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-25
Industrial applicability (IA)	Yes: Claims	1-25
	No: Claims	

2. Citations and explanations

**see separate sheet**

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/EP2005/000489

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

Reference is made to the following documents:

D1: US 2002/0197564 A

D2: Journal of Polymer Science: Part A: Polymer Chemistry, 2003, Vol. 41, 3227-3242

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-25 does not involve an inventive step in the sense of Article 33(3) PCT.

The document US 2002/0197564 A (D1), which is considered as the closest prior art discloses a lithographic printing plate precursor (see page 9, example 1) comprising a) a substrate (anodized aluminum foil) and b) a radiation-sensitive coating which comprises:

- i) a polymeric binder soluble in aqueous alkaline developers (acrylic acid copolymer Joncryl<sup>TM</sup> 683; methacrylic copolymer AC 50<sup>TM</sup>);
- ii) a free-radical polymerizable monomer comprising a non-aromatic double bond (dipentaerythritol pentaacrylate / urethane acrylate); and
- iii) a radiation-sensitive initiator for free-radical polymerization (namely 2-4(methoxyphenyl)-4,6-bis(trichloromethyl)-1,3,5-triazine).

The subject-matter of present claim 1 differs from D1 in that component ii) comprises a compound represented by formula (I) of present claim 1.

The problem to be solved by the present invention may be regarded as providing a lithographic printing plate precursor exhibiting an improved radiation sensitivity (page 4, lines 1-2, of the present application).

The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

The document D2 (i.e. the article from the Journal of Polymer Science) deals with the design and synthesis of highly photopolymerizable styrenyl compounds for the preparation

of photocurable coatings (see page 3227, introduction). In said document **5-(4-vinylbenzyl)thio-1,3,4-thiadiazole-2-thiol** (see page 3229), which falls within general formula (I) of present claim 1, is described as providing the same advantages as in the present application: on page 3228, left column, it is clearly stated that styrene derivatives carrying a thiadiazole group linked to the phenyl group through a methylthio group yield **high photopolymerization reactivity**, especially in the presence of 2-4(methoxyphenyl)-4,6-bis(trichloromethyl)-1,3,5-triazine as a photoinitiator, which triazine photoinitiator is precisely the photoinitiator used in example 1 of D1. The skilled person would therefore regard it as a normal option to include said styrene derivative in the radiation-sensitive coating described in document D1 in order to solve the problem posed.

Dependent claims 2-23 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, the reasons being as follows: the technical features comprised in said claims either are disclosed in D1 or are considered as conventional by the skilled person.

The process for producing a lithographic printing plate precursor according to present claim 1 (i.e. subject-matter of present claim 24), and the process for producing a lithographic printing form from the printing plate precursor according to present claim 1 (i.e. subject-matter of present claim 25) cannot be regarded as inventive in the light of D1 (example 1) and D2.